REMARKS/ARGUMENTS

Applicants wish to thank the Examiner for considering the present application. In the Office Action dated November 4, 2003, claims 1-12 are pending in the application. Applicants respectfully request the Examiner for reconsideration.

The drawings stand objected to as failing to fully comply with 37 C.F.R. §1.84(p)(5). The specification was amended to include items 10 and 900. Further, Fig. 1 has been amended to remove the second reference numeral 102. Applicants believe that these objections are now overcome.

Claims 1, 5, 8, and 12 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Dunn* (3,742,498) in view of *Gilhousen* (4,901,307). Applicants respectfully traverse.

Claim 1 is directed to a method for synchronizing a CDMA communications signal that includes transmitting a sequence of forward link CDMA signals from a gateway to an intended subscriber through *multiple transponder platforms* wherein the forward link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was transmitted from the gateway to each transponder platform. The method further includes receiving a sequence of return link CDMA signals from the intended subscriber wherein the return link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was received by the intended subscriber from each transponder platform and finding corresponding time for transmitting subsequent CDMA signals from the gateway to each transponder platform so that subsequent CDMA signals from the multiple transponder platforms arrive at the intended subscriber in substantially the same phase. One feature of the invention is that it is used for CDMA signals. Another feature of the invention is that the intended use is for multiple transponder platforms. In the step

of receiving a sequence of return link CDMA signals, the return link CDMA signals comprise ranging and calibration data representative of the time *each* forward link CDMA signal was received by the intended subscriber from *each* transponder platform.

The Examiner points to the *Dunn* reference for synchronizing communication. The synchronization in the *Dunn* reference teaches that synchronization is used for a TDM multiple access communication system. As is explained in Col. 6, lines 5-12, the ultimate goal is to enable the adjustment of the transmit timer contained in the aircraft to assure that transmission bursts from that particular aircraft occur in the proper time slot of the TDM frame format. Thus, it should be understood that TDM type communications deal with time slots and thus the *Dunn* reference is directed to aligning the timing with the time slots. The Examiner points to Col. 5, lines 59-67, and Col. 6, lines 1-13, for teaching time and phase differences are measured by the ground station. It should be noted that these passages refer to Fig. 1. Although Fig. 1 illustrates two satellite carrying repeaters 42, 43, only one repeater is used in the system described in those passages. The second satellite 43 may also be used but performs a parallel function with that of satellite 42. Thus, the two satellites do not act together but act as two separate measurements. Therefore, the *Dunn* reference does not teach or suggest a sequence of forward link CDMA signals from a gateway to an intended subscriber via multiple transponder platforms. The *Dunn* reference is quite different in this respect. The operation of the *Dunn* reference is described more completely in Col. 5, lines 48 through Col. 6, line 13. Further, the *Dunn* reference does not receive a sequence of return link CDMA signals from the intended subscriber when the return link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was received by the intended subscriber from each transponder platform. Therefore, the second step of claim 1 is also not taught or suggested in the *Dunn* reference.

Applicants admit that the *Dunn* reference does describe the phase difference between the transmitted master synch and the master synch received from the satellite is a measure of the range between satellite 42 and ground station 40. *Dunn* uses the phase difference to determine the necessary timing and the range from the aircraft to the satellite. Also, the *Dunn* reference is different in that the master station transmits a master or reference synch burst signal through the satellite to each of the aircraft. Each of the aircraft then transmits a pseudo noise code ranging signal through the satellite and to the master station. The master station also receives the master synch signal from the repeater of the satellite. Thus, the phase difference of the signal that goes only to the satellite and back with the signal that goes through the satellite to the aircraft and back through the satellite to the master station is determined. Claim 1 recites transmitting a sequence of forward link CDMA signals from a gateway to an intended subscriber via multiple transponder platforms and receiving a sequence of return link CDMA signals from the intended subscriber. The signals that are transmitted have data representative of the time each forward link was transmitted by the gateway to the transponder platform, wherein the ranging and calibration data in the receiving step is representative of the time each forward link was received by the intended subscriber from the transponder platform. Thus, from the ranging and calibration data the corresponding time for transmitting subsequent CDMA signals is determined. The Examiner admits that the *Dunn* reference does not specifically state that the multiple satellites used would send the signals to the aircraft such that they would arrive substantially in the same phase with each other. The Examiner cites the *Gilhousen* reference for this proposition. The *Gilhousen* reference does not teach or suggest the elements described above that are missing from the *Dunn* reference. Namely, the *Gilhousen* reference does not teach or suggest transmitting a sequence of forward link CDMA signals to an intended subscriber via multiple transponder platforms wherein the forward link CDMA signals comprise ranging and

calibration data representative of the time each forward link CDMA signal was transmitted from the gateway to the transponder platform. Further, the *Gilhousen* reference does not receive a sequence of return link CDMA signals from the intended subscriber wherein the link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was received by the intended subscriber from each transponder. Also, no corresponding time for transmitting subsequent CDMA signals is determined from the ranging and calibration data. Applicants therefore respectfully request the Examiner to reconsider claim 1.

Claim 5 is a further limitation of claim 1 and therefore claim 5 is believed to be allowable for the same reasons set forth above.

Claim 8 is an apparatus claim similar to that of claim 1. Applicants therefore respectfully request the Examiner to reconsider the rejection of claim 8 for the same reasons set forth above with respect to claim 1.

Claim 12 is dependent upon claim 8 and is believed to be allowable for the same reasons set forth above.

Claims 2-4 and 9-11 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Dunn* in view of *Gilhousen* as applied to claims 1, 5, 8, and 12, in further view of *Dunn* 3,593,138. Applicants respectfully submit that the *Dunn* reference '498 has several deficiencies described above with respect to claim 1. Applicants have reviewed the *Dunn* reference '138 and find no teaching or suggestion for the missing elements. That is, the *Dunn* reference '138 does not teach or suggest transmitting a sequence of forward link CDMA signals from a gateway to an intended subscriber via multiple transponder platforms wherein the forward link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was transmitted from the gateway to each transponder platform. The *Dunn* reference also fails to teach or suggest the missing step of receiving a sequence of return CDMA signals

from the intended subscriber wherein the return link CDMA signals comprise ranging and calibration data representative of the time each forward link CDMA signal was received by the intended subscriber from each transponder platform. Thus, Applicants respectfully believe claims 2-4 and 9-11 are allowable for the same reasons set forth above.

Claims 6 and 7 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Dunn* (3,742,498) in view of *Gilhousen* (4,901,307) as applied to claims 1, 5, 8, and 12 above, in further view of *Witsaman* (5,416,808). Applicants respectfully traverse.

Claim 6 is an independent method claim that uses multiple transponder platforms. As described above, the *Dunn* and *Gilhousen* references do not teach or suggest the use of multiple transponder platforms that are used to transmit a ranging signal from a gateway to a subscriber. The *Witsaman* reference also fails to teach multiple transponder platforms. The use of the multiple transponder platforms is carried through in several steps of the claims. For example, claim 6 includes the step of "transmitting signal timing and offset information from the subscriber to the gateway via *each* transponder platform." Also, claim 6 recites the step of computing relative signal timing and phase data from the signal timing and phase offset information for the subscriber and each transponder platform. Claim 6 also recites the step of computing relative motion statistics of each transponder platform relative to the subscriber from the signal timing and phase data. Further, claim 6 recites averaging the signal timing and phase data for the subscriber and each transponder platform to calculate a subscriber reference clock correction. The final step of claim 6 is transmitting the subscriber reference clock correction from the gateway to the subscriber to synchronize the subscriber reference clock so that the subscriber receives subsequent CDMA signals transmitted concurrently from the gateway to the subscriber via each transponder

platform in substantially the same phase. Thus, as can be seen, the multiple transponder platform idea is carried through claim 6. The use of the multiple transponder platforms along with the other limitations are not taught or suggested in either of the three references.

Claim 7 is dependent upon claim 6 and is also believed to be allowable for the same reasons set forth above.

In light of the remarks above, Applicants submit that all rejections are now overcome. The application is now in condition for allowance and expeditious notice thereof is earnestly solicited. Should the Examiner have any questions or comments which would place the application in better condition for allowance, he is respectfully requested to call the undersigned attorney.

Respectfully submitted,

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